

(PCT Rule 61.2)

**To:**

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

**Date of mailing (day/month/year)**  
24 October 2000 (24.10.00)

International application No.  
PCT/GB00/00966

**Applicant's or agent's file reference**  
HEP10891/901

**International filing date (day/month/year)**  
21 March 2000 (21.03.00)

**Priority date (day/month/year)**  
23 March 1999 (23.03.99)

**Applicant**

CROWE, Eliot et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
28 September 2000 (28.09.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

**The International Bureau of WIPO**  
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1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

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To: Karen Williams Fax: 703-305-3230

Company: USPTO Phone: 703-305-3688

From: James R. Cannon

Fax: (919) 854-1401 Phone: (919) 854-1400

Date: \_\_\_\_\_ Number of Pages: 8

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*Ms Williams: Attached is the IPR for Serial No  
09/437,067 per your request.*

*James R. Cannon*

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## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>HEP10891/901</b>		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/418)	
International application No. <b>PCT/GB00/00968</b>	International filing date (day/month/year) <b>21/03/2000</b>	Priority date (day/month/year) <b>23/03/1999</b>	
International Patent Classification (IPC) or national classification and IPC <b>H01M2/12</b>			
Applicant <b>HAWKER ENERGY PRODUCTS LIMITED</b>			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 1 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input checked="" type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>			
Date of submission of the demand <b>28/09/2000</b>		Date of completion of this report <b>17.05.2001</b>	
Name and mailing address of the international preliminary examining authority:  <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2339 - 0 Fax 528855 epmu d</b> <b>Fax: +49 89 2339 - 4465</b>		Authorized officer <b>Piber-Goldbacher, U</b> <b>Telephone No. +49 89 2339 7327</b> 	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/00966

**I. Basis of the report**

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):  
Description, pages:

1-4 as originally filed

**Claims, No.:**

1-9 as received on 26/03/2001 with letter of 26/03/2001

**Drawings, sheets:**

1/7-7/7 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/00966

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of

☐ the entire international application.

☒ claims Nos. 8.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*Indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (specify):  
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)

Yes: Claims 4, 5, 6, 8

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB00/00966

	No:	Claims	1, 2, 3, 7
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-8
Industrial applicability (IA)	Yes:	Claims	1-8
	No:	Claims	

2. Citations and explanations  
see separate sheet

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/00966

**Re Item III****Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claim 9 refers to the contents of the drawings in some vague and not precisely defined way. This throws doubt on the extent of protection and renders this claim so unclear that no meaningful opinion could be formed (cf. Rule 6.2(a) PCT).

**Re Item V****Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: US-A-4 338 383 (JUTTE GOTTFRIED W ET AL, INDIANAPOLIS, US) 6 July 1982  
D2: US-A-4 168 350 (OXENREIDER TERRY R ET AL, WERNERSVILLE, US) 18 September 1979  
D3: US-A-4 207 387 (JUTTE GOTTFRIED W, INDIANAPOLIS, US) 10 June 1980

1. The subject-matter of claims 1, 2, 3, and 7 does not meet the requirements of the PCT with respect to novelty.
  - 1.1 D1 (cf. Col. 1, line 57 - col. 2, line 8) or D2 (cf. col. 4, line 24 - col. 5, line 10 and col 5, line 44 - col. 6, line 16) disclose a battery casing comprising a lid having a top surface and a recess inset into the said surface, a vent at the base of the recess through which gas is expelled from the battery, a cover for sealingly covering said recess, sealing means between the cover and the recess, and a gas guide means formed integrally with the cover for guiding gas from the collection space away from the battery, wherein the cover may be positioned in more than one orientation.
  - 1.2 As to dependent claim 2, D1 (cf. col. 3, lines 14-21) discloses a plurality of vents,

**INTERNATIONAL PRELIMINARY**

International application No. PCT/GB00/00966

**EXAMINATION REPORT - SEPARATE SHEET**

one for each battery cell.

- 1.3 As to dependent claim 3, D1 (cf. col. 3, lines 47-53) discloses a smooth surface formed by the cover and the battery.
- 1.4 As to dependent claim 7, D1 or D2 also disclose a removable cover.

Thus, the disclosure of D1 is taking away the novelty of the subject-matter of claims 1, 2, 3 and 7.

2. The subject-matter of claims 1-8, does not meet the requirements of Art. 33 PCT with respect to an inventive step.
- 2.1 The claims 1, 2, 3, 6, 7 and 8 are not inventive because they do not contain any novel features which show a surprising effect.
- 2.2 The features of dependent claims 4 and 5 have already been employed for the same purpose in a similar battery casing lid, see document D3, col. 4, lines 9-11 and fig. 2 (cf. especially "discharge port" 25 and "tubing segment" 26). It would therefore be obvious to the person skilled in the art, to apply these features with corresponding effect, namely the conveyance of the gases away from the battery, to a battery casing lid according to documents D1 or D2, thereby arriving at a battery casing lid according to claims 4 and 5.



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**CLAIMS:**

- 1 A battery casing (1) comprising a lid (3) having a top surface and a recess (12) inset into the said top surface, a vent (17) at the base of the recess through which gas is expelled from the battery, a cover (25) for sealingly covering said recess, sealing means to provide a seal between the cover and the recess, a gas collection space being defined within the covered recess, and a gas guide means (43) formed integrally with and in one position within the cover for guiding gas from the collection space away from the battery, wherein the cover and therefore the gas guide means may be positioned in more than one orientation to the battery casing.
- 2 A battery casing according to Claim 1, comprising a plurality of vents (17) at the base of the recess, one for each of the battery cells.
- 3 A battery casing according to either one of the preceding claims, wherein the top surface of the cover lies no higher than the adjacent surface of the battery.
- 4 A battery casing according to any one of the preceding claims wherein the guide means comprises a nozzle (43) protruding from the cover and to which a flexible tube may be attached.
- 5 A battery casing according to Claim 4, wherein the lid has a channel (23, 24) extending from the recess in which the guide means is located.
- 6 A battery casing according to Claim 5, wherein the lid has a plurality of channels extending from the recess in at least one of which the guide means is located.
- 7 A battery casing according to any one of the preceding claims, wherein the cover is removable from the lid.
- 8 A battery casing according to any one of the preceding claims wherein the cover and the lid each has two straight parallel sides and two semi-circular ends, the guide means (43) being located in the middle of one semi-circular end of the lid.
- 9 A battery casing substantially as described herein with reference to and as illustrated in the accompanying drawings.

\*\*\*\*\*  
\*\*\* RX REPORT \*\*\*  
\*\*\*\*\*

RECEPTION OK

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RESULT	OK	

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>HEP10891/901</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 00/ 00966</b>	International filing date (day/month/year) <b>21/03/2000</b>	(Earliest) Priority Date (day/month/year) <b>23/03/1999</b>
Applicant  <b>HAWKER ENERGY PRODUCTS LIMITED</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 00/ 00966

## B x iii TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The abstract has to be changed as follows:

Line 1, after "casing" insert "(1)";

Line 2, after "lid" insert "(3)", after "recess" insert "(12)" and after "vent" insert "(17)";

line 3, after "cover" insert "(25)".

## INTERNATIONAL SEARCH REPORT

National Application No

PCT/GB 00/00966

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 H01M2/12 H01M2/04

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 338 383 A (JUTTE GOTTFRIED W ET AL, INDIANAPOLIS, US) 6 July 1982 (1982-07-06) column 2, line 58 -column 5, line 7 figures 1-9	1-3,7,9
A	US 4 168 350 A (OXENREIDER TERRY R ET AL, WERNERSVILLE, US) 18 September 1979 (1979-09-18) column 1, line 6 - line 19 column 4, line 25 -column 7, line 33 figures 1,4	1-3,7
A	US 4 207 387 A (JUTTE GOTTFRIED W, INDIANAPOLIS, US) 10 June 1980 (1980-06-10) column 2, line 16 - line 34 column 3, line 13 -column 5, line 44 figures 1,2	1,2,4-7

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

29 June 2000

Date of mailing of the international search report

07/07/2000

Name and mailing address of the ISA

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Authorized officer

Peis, S

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/00966

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4338383	A	06-07-1982	US 4214045 A	22-07-1980
			CA 1129949 A	17-08-1982
			MX 146909 A	03-09-1982
<hr/>				
US 4168350	A	18-09-1979	CA 1121450 A	06-04-1982
			GB 1599354 A	30-09-1981
<hr/>				
US 4207387	A	10-06-1980	NONE	
<hr/>				